

REMARKS

Applicants have carefully reviewed and considered the Office Action mailed December 19, 2003 and the references cited therewith. By this response, Claims 1, 7, 9, 11, 12 and 13 are presently amended. Claims 2-6 and 14-17 have been withdrawn and Claims 21 and 22 are newly added to the application for consideration by the Examiner.

Referring to the Office Action, claims 1, 7, 12 and 18 are rejected under 35 U.S.C. 102 (b) as being anticipated by Landwehr (US 4,786,925). For the reasons set out herebelow, applicants respectfully traverse this ground of rejection.

The object in Landwehr is to ascertain dimensions, measurements, surface contours and the like of three dimensional objects such as a person. See col. 1, lines 5-10. A structured light projector is used to project a pattern on an object and a detection system i.e., camera is used to image the resulting optical pattern. It is essential that the image is at a substantially different angle from the optical projection axis. The key is that the observation must be at a different angle so that variations in the surface of the object appear as variations in the optical pattern. In other words, because of this angular effect, the optical pattern changes with the surface contour changes and the detection system, by imaging these pattern changes, can acquire information on the surface shape.

In comparison, the present invention is directed to a device that projects parallel laser lines that are substantially parallel to the camera lens. As a result, the surface contours can not be seen, indeed, in the present invention we do not desire to see such contours. Consequently, we create an optical pattern that is constant and can be used as a reference for scaling objects in the field of the camera.

Note that as the object surface moves away from the camera lens, the pattern of the dots created by the scaling device of the present invention appear the same on the photographic image, allowing for the invention to function nearly regardless of the distance between the camera and the object. In comparison, in Landwehr the optical patterns would appear to walk off of the side of the camera's field of view, indicating a

change in distance, i.e., a contour, desirable in Landwehr and useless for the scaling purpose of the present invention.

It is clear that the intent of Landwehr is to look for pattern deviations in order to determine surface contours, see col. 1, lines 51-57. The parallel lines in Landwehr are not parallel when imaged on a curved surface and are not meant to measure the size of small structures. The present invention, by design, ignores the effects from surface contour changes, and functions to accurately measure the size of small objects. This is achieved by having the camera lens view in a direction substantially parallel to the laser beams, thus removing all triangulation effects.

Independent claims 1 and 12 have been revised to clarify that the scaling device is substantially aligned with an imaginary line extending between the camera lens and the object of interest. Because this is completely different from structure and method of Landwehr, claims 1, 7, 12 and 18 are believed to be patentable over Landwehr.

Claims 8 and 20 are rejected under 35 U.S.C. 103 as being unpatentable over Landwehr in view of Capper (US 5,189,463). Capper is cited as showing a laser diode mounted on a camera for projection onto an object. It is stated in the Office Action that "[t]he pattern is not projected during the taking of the photograph (column 4, lines 28-30), because in Capper, the pattern aids in aiming the camera, not in producing contour measurements of the target." As stated above, the present invention is not interested in acquiring contour measurements, rather, it is entirely interested in creating a photographic image wherein the light pattern is projected onto the object of interest in order to measure the size of the features of interest. In Capper, it is clearly stated that "the light pattern produced by the radiant energy does not appear on the recorded image." See column 4, lines 29-31. Clearly Capper provides no teaching of the present invention of utilizing the beam to provide the desired pattern on the photographic image. For this reason, it is believed that claims 8 and 20 are patentable over the combination of Landwehr and Capper.

Claims 10, 11 and 13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Landwehr in view of Kishimoto (US 4,894,551). As state on page 5 of the Office Action, "[a]s in Landwehr, the optical axes of the light sources in Kishimoto are oriented at an angle to the detector." Because Kishimoto is similar to Landwehr, Ksihimoto is

dissimilar to the present invention for the same reasons that Landwehr is dissimilar to the present invention. For the same reasons, it is believed that claims 10, 11 and 13 are patentable over the combination of Landwehr and Kishimoto.

It is respectfully noted that claims 9 and 19 are objected to as being dependent on rejected claims. Because of the reviews to claims 1 and 12 as stated above, it is believed that claims 9 and 19 are patentable.

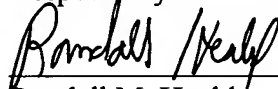
Newly entered claims 21 and 22 have been prepared to include the patentable features of claims 1, 12, 9 and 19. For all of the reasons stated above, it is believed that each of these claims 21 and 22 is patentable.

CONCLUSION

It is respectfully requested that all of the remaining claims 1, 7-13 and 18-22 are patentable and that a Notice of Allowability is requested. In addition, because of the generic status of claims 1 and 12, it is requested that a Notice of Allowability be issued for the withdrawn claims 2-6 and 14-17. If there are any questions concerning this Response, the Examiner is invited to contact the undersigned at (321)-867-7214.

Date: Feb 11, 2007

Respectfully submitted,



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Date: February 11, 2004.

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